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10/765,991

01/29/2004

Yuji Hamasaki

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02/09/2006

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EXAMINER

HSIEH, SHIH WEN

ART UNIT

PAPER NUMBER

2861

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No.

10/765,991

Applicant(s)

HAMASAKI, YUJI

Examiner

Shih-wen Hsieh

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6-14-04; 7-22-04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. Three "X" references listed in European Search Report Ref. No. P203-0578EP dated July 22, 2004 is considered, and one of the "X" reference US 6,318,834 is used in this office action.

### ***Claim Objections***

3. Claim 2 is objected to because of the following informalities:  
  
Line 2, please change "the detection result" into "a detection result" to correct a minor lack of antecedent basis problem.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-8 and 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Otsuka et al. (US Pat. No. 6,318,834 B1, from IDS dated July 22, 2004).

In regard to:

Claim 1:

Otsuka et al. teach:

An inkjet printing apparatus which includes a printhead that discharges ink and an ink tank detachably attached to the printhead, and executes printing by using the printhead that discharges the ink supplied from the ink tank, comprising:

detection means (37, fig. 4) for detecting presence/absence of the ink tank, refer to col. 5, lines 38-42 and step S11, fig. 5;

cleaning means (24 and 25, fig. 2) for cleaning the printhead, refer to col. 4, lines 58-67; and

control means (31, fig. 4) for inhibiting a cleaning operation by said cleaning means on the basis of a detection result from said detection means, refer to steps S11 to "1" to S22 to S18 to S23 in fig. 5; and col. 7, lines 46-50. In the quoted steps and column and lines, if the cartridge is not installed, the warning process is initiated, and

the process can never go to steps S19 and S20, which are the cleaning steps. Or, in another words, if the cartridge is never installed, then the warning process is initiated, and the cleaning process will never be carried out until a cartridge is installed, then the process goes to step S19 to start the cleaning process. The previous discussions indicate if the cartridge is being detected and the result is the cartridge is not installed, then cleaning process is not going to occur, or, the cleaning process is being inhibited.

Claim 2:

The apparatus according to claim 1, wherein when the detection result from said detection means indicates that the ink tank is not attached to the printhead, said control means inhibits the cleaning operation by said cleaning means.

Rejection:

This claim is rejected on the basis as set forth for claim 1 discussed above.

Claim 3:

The apparatus according to claim 2, wherein when the ink tank is not attached to the printhead, and a printing signal is received, said control means also inhibits a printing operation by said printhead.

Rejection:

This claim is rejected on the basis as set forth for claim 1 discussed above. Because, if the cartridge is not installed, then the process is simply a warning process, until a cartridge is installed, then the process goes to cleaning and printing (steps, S19-21, and normal operation. Normal operation can be understood by one of ordinary skill

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in the art as a printing operation (because an ink jet printer is mainly for producing images on a print medium by ink jet), see col. 6, lines 7-9

Claim 4:

Otsuka et al. further teach:

output means (38, fig. 4) for, when a cleaning request signal or a printing signal is received in a state in which said detection means detects that the ink tank is not attached to the printhead, outputting information representing that the ink tank is not attached to the printhead, refer to col. 5, lines 42-44; and col. 6, lines 44-63.

Claim 5:

Otsuka et al. further teach:

wherein the ink tank comprises a plurality of ink tanks (23, fig. 2, Otsuka et al. called cartridges, a cartridge is generally has its own ink supply in the form of a tank, this tank and an ink jet head forms the cartridge, when replace the cartridge, the whole cartridge is discarded, in some type of cartridges, only the ink tank is replaced, and the ink jet head remains) which store a plurality of types of ink respectively and each of the plurality of ink tanks is detachably attached to the printhead. Note: from fig. 2, numeral 23 points to four blocks. It is clearly understood to the one of ordinary skill in the art that the four blocks represent four different colors of ink, i.e., black, cyan, magenta and yellow, and also according to the flow diagram in fig. 5, those ink tanks (Otsuka et al. called it a cartridge) can be removably attached to the carriage.

Claim 6:

An inkjet printing apparatus which includes a printhead that discharges ink and an ink tank detachably attached to the printhead, and executes printing by using the printhead that discharges the ink supplied from the ink tank, comprising:

detection means for detecting presence/absence of the ink tank;

cleaning means for cleaning the printhead; and

control means for controlling a cleaning operation by said cleaning means on the basis of an unattached time of the ink tank, which is obtained on the basis of a detection result from said detection means.

Rejection:

The subject matters in this claim are the same as those in claim 1 with the difference in means plus function is used in this claim, and is rejected on the basis as set forth for claim 1 discussed above.

Claim 7:

Otsuka et al. further teach:

wherein the control means controls a level of the cleaning operation by said cleaning means on the basis of the unattached time of the ink tank, refer to fig. 6, in which the cartridge absent time equivalent to the claimed unattached time.

Claim 8:

measurement means (31A, fig. 4) for measuring the unattached time of the ink tank on the basis of the detection result from said detection means, refer to col. 5, lines 28-32, and

storage means (ROM, col. 5, line 29) for storing the unattached time of the ink tank, which is measured by said measurement means, and wherein said control means controls the cleaning operation by said cleaning means on the basis of the unattached time of the ink tank, which is stored in said storage means, refer to col. 7, lines 1-38.

Claim 10:

A method of controlling an inkjet printing apparatus which includes a printhead that discharges ink and an ink tank detachably attached to the printhead, and executes printing by using the printhead that discharges the ink supplied from the ink tank, result from the ink tank, comprising:

a detection step of detecting presence/absence of the ink tank; and

a control step of inhibiting a cleaning operation by a cleaning section that cleans the printhead, on the basis of a detection result in the detection step.

Rejection:

The steps in this method claim are deemed to be made inherent by the functions of the structure in the combination discussed above.

Claim 11:

A method of controlling an inkjet printing apparatus which includes a printhead that discharges ink and an ink tank detachably attached to the printhead, and executes printing by using the printhead that discharges the ink supplied from the ink tank, comprising:

a detection step of detecting presence/absence of the ink tank; and



a controlling step of controlling a cleaning operation by a cleaning section that cleans the printhead, on the basis of an unattached time of the ink tank, which is obtained on the basis of a detection result in the detection step.

Rejection:

The steps in this method claim are deemed to be made inherent by the functions of the structure in the combination discussed above.

Claim 12:

A program which implements control of an inkjet printing apparatus which includes a printhead that discharges ink and an ink tank detachably attached to the printhead, and executes printing by using the printhead that discharges the ink supplied from the ink tank, comprising:

a program code for a detection step of detecting presence/absence of the ink tank; and

a program code for a control step of inhibiting a cleaning operation by a cleaning section that cleans the printhead, on the basis of a detection result in the detection step.

Rejection:

The steps in this method claim are deemed to be made inherent by the functions of the structure in the combination discussed above. ROM taught by Otsuka et al. generally is used to store ink jet printer operation programs that includes regular printing program and a maintenance program. These programs are indicate by flow chart shown in fig. 5

Claim 13:

A program which implements control of an inkjet printing apparatus which includes a printhead that discharges ink and an ink tank detachably attached to the printhead, and executes printing by using the printhead that discharges the ink supplied from the ink tank, comprising:

a program code for a detection step of detecting presence/absence of the ink tank; and

a program code for a control step of controlling a cleaning operation by a cleaning section that cleans the printhead, on the basis of an unattached time of the ink tank, which is obtained on the basis of a detection result in the detection step.

**Rejection:**

The steps in this method claim are deemed to be made inherent by the functions of the structure in the combination discussed above. ROM taught by Otsuka et al. generally is used to store ink jet printer operation programs that includes regular printing program and a maintenance program. These programs are indicate by flow chart shown in fig. 5

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being obvious over Otsuka et al.

This claim mainly talks about:

acquisition means for acquiring, on the basis of the detection result from said detection means, first time when the ink tank is detached and second time when the ink tank is attached later, and

determination means for determining the unattached time of the ink tank on the basis of the first and second times acquired by said acquisition means, and

wherein said control means controls the cleaning operation by said cleaning means on the basis of the unattached time of the ink tank, which is determined by said determination means.

Discussion:

Otsuka et al. do not explicitly teach the "acquisition means", however, Otsuka et al. implicitly teach such a means. The situation is: the first time is the time that the timer (31A) starts to count the absent of a cartridge, this absence of cartridge is informed to the controller (contained the timer) by the switch (37), or, the switch (37) sends out a signal SIC (col. 5, line 40-42) to inform the controller (31) whether or not a cartridge is installed. If the cartridge is not installed, then the timer (31A) starts to count (step S22, fig. 5), i.e., the first time is acquired. The timer keeps counting until a cartridge is installed (step S18, fig. 5), up to here the second time is acquired, then cleaning is executed, and the timer is reset (step S 21) and waiting for the next count and acquires another set of times. These counting procedure as delineated in fig. 5 is tabulated in fig.

6.

Based on the discussion above, it is understandable that the combination of the "cartridge detecting switch 37", plus the "cartridge absence time-detecting timer 31A" and the "controller 31" provided by Otsuka et al. actually perform the task that acquisition means, and determination means perform in the instant application. Simply put, the first time and the second time simply form a time duration, which is a time span in which the ink cartridge is absent. Otsuka et al. timer does this. We can say the timer corresponds to the acquisition means, because it acquires times----a time that the cartridge is not installed and a time the cartridge is installed, and the time span between these two times forms the basis for cleaning process.

Therefore it would have been an obvious matter that although acquisition means and determination means are used in the instant application, Otsuka et al. teach these means plus function simply through the switch, the timer and the controller as discussed above.

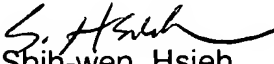
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-wen Hsieh whose telephone number is 571-272-2256. The examiner can normally be reached on 7:30AM -5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, S D. Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**SHIH-WEN HSIEH**  
**PRIMARY EXAMINER**

  
Shih-wen Hsieh  
Primary Examiner  
Art Unit 2861

SWH



Feb. 1, 2006